SECTION C

STATEMENT OF WORK (SOW)
FOR THE
BASIS OF INTERIM OPERATIONS (BIO) GENERATION
FOR PORTSMOUTH GASEOUS DIFFUSION PLANT FACILITIES

1. Introduction

The U.S. Department of Energy (DOE) Office of Environmental Management (EM) is responsible for the cleanup and legacy waste management activities at the Portsmouth Site in Portsmouth, Ohio. This task order is a Cost Plus Fixed Fee task order to fully develop a BIO for the transfer of Category 2 Nuclear facilities from United States Enrichment Corporation (USEC) to DOE in the PORTS GDP area.

2. Background

Consistent with the 1992 Energy Policy Act, DOE has leased portions of the land, facilities, and equipment of the Portsmouth (PORTS) Site, commonly referred to as the Portsmouth Gaseous Diffusion Plant (GDP), to USEC for Uranium enrichment operations, while it retains responsibility for environmental restoration and related legacy waste management activities, including the future decommissioning of the facilities upon final plant shut down. Upon privatization in 1998, USEC operated the plant under a Nuclear Regulatory Commission (NRC) Certificate until they notified DOE that they would cease operations and terminate the lease. Currently, these Portsmouth facilities are in a Cold Shutdown mode (CSD) and minimum operations are being performed to support Cold Shutdown. As operations cease, the facilities must be returned to DOE, the owner, in order for Decontamination and Decommissioning (D&D) under the DOE regulations to occur.

An initial Task Order for the PORTS Safety Basis Envelope requirement was completed in January 2007. Under this effort, the contractor identified 10 CFR 830 compliant documentation for the transfer of the GDP facilities for future Surveillance and Maintenance (S&M) and D&D activities at the Portsmouth site. The identification of the DOE safety basis envelope was partially accomplished by the identification of appropriate NRC information (NRC SAR sections, natural phenomenon analysis, design basis accident analysis, etc.) and other DOE support documentation. The on-site NRC documents were made available at the PORTS DOE office. These base documents established the generation of a gap analysis which must be filled to meet a required compliant DOE safety basis envelope for facility S&M.

3. Scope

The contractor shall develop a BIO and the supporting safety analyses of S&M activities for Portsmouth facilities that will be de-leased from United States Enrichment Corporation (USEC). The BIO will support the transfer of GDP facilities to DOE regulation and will meet the Authorization Basis (AB) requirements to allow for S&M activities. The BIO shall provide the regulatory safe harbor permitting the transfer of leased facilities from NRC to DOE. The BIO shall be developed utilizing existing AB documentation for the hazard category 2 and 3 nuclear facilities which were identified and presented in the analysis of information and gap analysis provided by URS during the previous task. The schedule shall include an estimate and a list of milestones, including a list of supporting documents required. The cost and schedule estimates shall be sufficiently detailed to identify the major decisions (such as the selection of hazard controls) that must be approved by DOE to ensure successful development, approval and implementation of the BIO. The cost and schedule shall also include support for two reviews by the DOE Portsmouth and Paducah Project Office (PPPO) prior to approval with DOE Headquarters.

The scope of work for the proposal is to prepare the BIO and necessary supporting technical documents. The BIO will be developed using the appropriate sections of the current safety basis documents (identified below) and will include the safety analyses required to address the gaps identified in the gap analysis also referenced below.

4. Applicable Directives

The Contractor shall comply with DOE directives identified in Part III, Section J, Attachment "Applicable DOE Directives." The full text of DOE directives is available at http://www.directives.doe.gov. The generation of the DOE safety basis envelope in the form of a BIO for S&M is required to be compliant with 10 CFR 830. DOE anticipates the content of these documents will meet the 10 CFR 830 objectives without necessarily meeting the 10 CFR 830 format requirements.

5. DOE Format Requirements

The BIO is to be provided in an electronic format, compliant with DOE regulations and DOE STD 3011-2002, and ready for submittal to the DOE Approval Authority. This includes the resolution of all DOE comments to the extent that an appropriate portion of a Safety Evaluation Report can be prepared in accordance with DOE STD 1104.

6. Performance Requirements

The Contractor shall provide a justifiable graded safety basis envelope in the form of a BIO to meet 10 CFR 830 requirements for S&M site-specific to

Portsmouth. This safety basis envelope in the form of a BIO is for an interim time period prior to the acquisition of an S&M or D&D contractor to take over the USEC transferred facilities and complete fully compliant 10 CFR 830 Documented Safety Analyses (DSAs) in a DOE format. This Task Order will provide and establish the BIO for transfer of the GDP facilities in the earliest possible timeframe. The Contractor shall complete the following:

a. A justifiable graded approach to provide a DOE compliant Safety Basis Envelope in the form of a BIO which meets 10 CFR 830 requirements for S&M of GDP PORTS nuclear facilities site-specific to Portsmouth.

b. An identified list and description of documents shall be provided by the DOE which constitutes the present NRC compliant S&M operation and appropriate DOE existing documentation to support the generation of a BIO. The contractor shall collect and organize the provided documents into a compliant 10 CFR 830 set of documents for DOE S&M operations.

c. A 10 CFR 830 compliant Safety Basis Envelope in the form of a BIO. This will includes the generation of DOE compliant documents to augment the documents collected and organized in (b) above which are required for a graded but compliant DOE BIO for facility S&M at Portsmouth. This also includes the generation of other documentation required to augment and make whole the Safety Basis Envelope in the form of a BIO. This Safety Basis Envelope includes at least a facility description, facility hazard characterization, initiating events, preventive/mitigation controls and actions, accident analysis and operations/processes using hazardous materials, including wastes.

7. Existing Resources

A. Existing resources for this effort include:

1. USEC Safety Analysis Report (SAR) and Technical Safety Requirements (TSR) for leased facilities (Currently regulated by NRC under 10 CFR 76)
2. Assessment of USEC SAR – This document identifies the sections of the USEC SAR that can be used in the BIO. The sections require minor modifications, including correction of references to standards and regulations.
3. DOE Documented Safety Analysis (DSA) and TSR for non-leased facilities (Currently regulated by DOE under 10 CFR 830)
4. DOE Preliminary DSA for leased facilities
5. DOE DSA for Safety Management Programs for the Cylinder Storage Yards
6. Assessment of the DOE safety basis documents – This document provides an evaluation of the DOE documents listed above with respect to using the documents in the development of the BIO.

7. Final gap analysis between current safety basis documents (listed above) and the projected BIO required for surveillance and maintenance activities.

B. All final deliverables from the initial Safety Basis Envelope Task Order (DE-AT30-06CC40000/PP06) are applicable:

1. The first deliverable is the recommended path forward, as a BIO, which provides the regulatory rationale behind why the transfer of the PORTS GDP Nuclear Category 2 facilities from NRC to DOE regulation could occur through a BIO for S&M in preparation for D&D.

2. The second deliverable identifies the portions of USEC's GDP NRC Safety Analysis Report (SAR) that are directly applicable to the S&M of the GDPs. These are mainly descriptions of the GDPs and conditions. Some of the analysis (natural phenomenon, etc.) is also applicable.

3. The third deliverable identifies applicable Safety management Systems and Documented Safety Analysis (DSA) documentation that is in place for other facilities presently in DOE's control. These could be applicable for the GDP facilities when the transfer takes place. This deliverable concentrates on the interface of the BIO with the DOE documentation that exists.

4. The fourth deliverable is a gap analysis of what is needed to complete a BIO for the Nuclear Category 2 facilities in the GDP for S&M activities. By performing the analysis and DSAs indicated, a final BIO product should be produced that meets the need to transfer the Nuclear Category 2 GDP facilities under DOE for S&M.

8. Facility Requirements:

The BIO shall address the following facilities:

Facility*	Description	Hazard Category
X-326	Process Bldg	Category 2
X-330	Process Bldg	Category 2
X-333	Process Bldg	Category 2
X-342A	Feed Vaporization Bldg	Category 2
X-343	Feed Vaporization & Sampling Bldg	Category 2
X-344A	UF6 Sampling Facility	Category 2
X-700	Conversion Shop & Cleaning Bldg	Category 2
X-705	Decontamination Bldg	Category 2
X-710	Tech. Service Bldg	Category 2
X-720	Maintenance and Stores Bldg	Category 2

* Although twenty GDP leased nuclear hazard category 2 facilities have been identified in the current plant SAR, the BIO shall combine the tie-in facilities with the process facilities and evaluate the two facilities as a single contiguous facility. And for this BIO, the cylinder storage yards and the one warehouse (XT-847) are assumed to be empty.

9. Travel

The Contractor shall make two trips to the Portsmouth GDP located in Piketon, OH for review of the BIO. Additional trips (estimated at no more than two) to the Portsmouth GDP or DOE Headquarters may be required.

10. Weekly Meetings

A weekly status meeting with PPPO shall be scheduled for the duration of the task order period of performance.

11. Miscellaneous Issues

The following issues shall be addressed during the development of the BIO:

A. *Facility Transfer.* The transfer of facilities from NRC to DOE regulation may take place all at once or in phases. The BIO shall be able to be applied to a few facilities at first, assuming one process building and one X-700 series facility.

B. *Assumptions.* The BIO analysis shall include the following assumptions:
   1. S&M Activities only (no deactivation or nonessential risk reduction activities)
   2. Criticality Accident Alarm System (CAAS) operational
   3. Planned Expeditious Handling (PEH) deposits are buffered
   4. Cascade shutdown – Compressors, process trapping systems not operating
   5. There will be no Greater than Safe Mass (GSM) cascade deposits
   6. There will be no removal of oils or hazardous materials inherent to the cascade system
   7. The addition of radioactive or hazardous material to storage areas within the facilities is limited to very small quantities

C. *Expansion of Scope.* The BIO shall be prepared in such a way to permit easy expansion of the future scope of BIO work. For example, if oil removal is desired to be restarted, the structure of the BIO shall provide an easy method for amendment or modification. This scope expansion of activities shall generally follow the present cold shutdown scope of work. The BIO is not required to evaluate these activities but the BIO shall be structured to allow the addition of these activities through minor changes to the BIO.

D. *Reduction in Nuclear Category.* The BIO shall also allow for the potential reduction of the facility's nuclear category based on hazards analysis and the inventory of radioactive material in the facility.

12. Deliverables

A. The Contractor shall provide deliverables in accordance with Section J, Attachment C "Deliverables." The following deliverables shall not be separately priced.

1. *Draft BIO.*
   a. Initial facility categorization according to DOE-STD-1027
   b. Establishment of the BIO format
   c. Preliminary Hazard Screening (PHS) documents that identify the hazard material inventories based on current available information. The deficiencies, including uncertainties, in the current inventory information must be identified. The PHS must implement reasonable methods for correcting the inventory data deficiencies such that a reasonable and bounding hazardous material inventory is established for each facility. The PHS shall address the fissile material inventory as well as the radioactive and hazardous material inventory.
   d. A description of the facility (including the associated S&M activities)
   e. A systematic identification of hazards associated with the facility
   f. Evaluation of normal, abnormal, and accident conditions (including potential natural phenomenon hazards that might be associated with long term status) that might be associated with the generation or release of radioactive or other hazardous materials, including consideration of the need for analysis of beyond design basis accidents
   g. Provide a draft BIO containing the appropriate components of the deliverables listed above to PPPO for formal review.

2. *Draft Interface of the BIO to Safety Management Systems On-site.*
   a. Derivation and classification of hazard controls necessary to protect workers, the public, and the environment
   b. Documentation of criticality safety basis
   c. Definition of the characteristics of Safety Management Programs necessary to ensure safe operation, including criticality safety, when criticality hazards exist
   d. Provide a draft BIO containing the appropriate components of the deliverables listed above to PPPO for formal review.

3. *Final BIO.*
   a. Document:
      - Provide a final BIO with all PPPO comments addressed.
      - A matrix of the PPPO comments, the contractor response and the final resolution.
   b. Support: Provide PPPO with document support as necessary (approximately two trips and up to an estimated 100 hours) for approval of the final BIO from Headquarters